

Clean Watersheds Needs Survey (CWNS) 2008



Overview

- EPA/States conduct CWNS to identify and document capital needs required to meet water quality and related public health goals of the Clean Water Act.
- The Act requires a survey every four years.
- Survey also required for Drinking Water Systems.

Overview (cont.)

- Information collected relates to publicly owned wastewater collection and treatment facilities.
- CSO control facilities.
- Storm water management activities.
- Non-point source pollution control projects.
- Decentralized wastewater treatment facilities.

Overview (cont.)

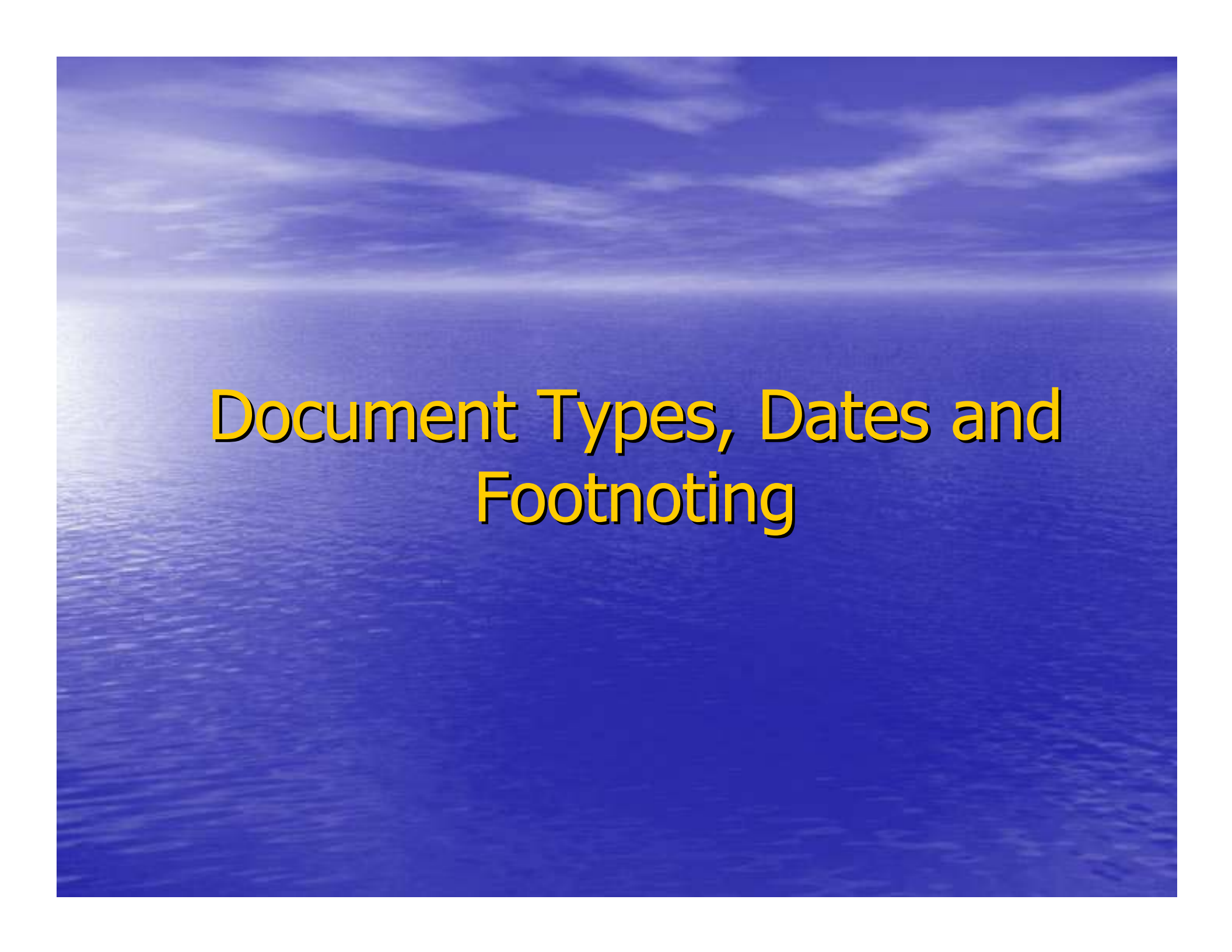
- Type of information collected includes: estimated needs, costs, technical information, flows, locations, contact information, population served, effluent information, unit processes and NPS best management practices.

Past Surveys

- First survey conducted in 1972 and this 2008 survey will be the 15th survey.
- Last survey was in 2004 and results are available on-line at EPA's web-site:
<http://www.epa.gov/cwns>
- Total National needs_ \$202.5 billion dollars.
- Maine's needs_\$854 million dollars (.42%)

2008 Survey Schedule

- Feb. 5, 2008_ Data entry begins.
- Oct. 27, 2008_ Last day data entry.
- Apr. 15, 2008_ Data review begins.
- Jun. 15, 2008_ Target – 25% submitted.
- Aug. 15, 2008_ Target – 50% submitted.
- Sep. 15, 2008_ Target – 75% submitted.
- Nov. 21, 2008_ Data correction deadline.
- Nov. 2008 to Feb. 2009_ Data review and reconciliation.



Document Types, Dates and Footnoting

Documents with no specific emphasis on the type of need

| Document | Doc Type |
|---|----------|
| Intended Use Plan | 01 |
| State and Federal Loan and Grant Applications | 02 |
| CWSRF Loan Applications | 03 |
| Non-governmental Grant Applications | 04 |
| Cost of Previous Comparable Construction | 05 |
| State-Approved Area-wide or Regional Basin Plan | 06 |
| State-Approved Local Comprehensive Water and Sewer Plan | 07 |
| Total Maximum Daily Load (TMDL) | 08 |
| National Estuary Program Comprehensive Conservation and Management Plan | 09 |
| Nutrient Criteria Studies | 10 |
| Impaired Waters or TMDL Listing | 11 |
| State Needs Surveys & other State forms | 12 |
| EPA-HQ Approved | 99 |

Intended Use Plan (01)

- Need: Yes
- Costs: Yes
- Footnotable: Yes
- Be careful with double counting of costs

2003
INTENDED USE PLAN
CLEAN WATER
STATE REVOLVING
FUND

Prepared by the
Georgia Environmental Facilities Authority
May 22, 2003



Documents with Emphasis on Wastewater Facility Needs

| Document | Doc Type |
|--|----------|
| Capital Improvement Plan (CIP) | 20 |
| Facility Plan | 21 |
| Preliminary Engineer's Estimate | 22 |
| Final Engineer's Estimate | 23 |
| Sewer System Evaluation Documents | 24 |
| Diagnostic Evaluation | 25 |
| Sanitary Survey | 26 |
| State-Approved Municipal Wasteload Allocation Plan | 27 |
| New State or Federal Regulation | 28 |
| Future or Proposed Municipal, State, or Federal Regulation | 29 |
| Administrative Orders, Court Orders, or Consent Decrees | 30 |
| NPDES or State Permit Requirement (with Schedule) | 31 |
| CSO Long-Term Control Plan (LTCP) | 32 |
| Approved CSO Long-Term Control Plan (LTCP) | 33 |
| CSO Cost Curve Needs | 98 |

Facility Plan (21)

- Need: Yes
- Costs: Yes
- Footnotable: Yes
- Use recommended alternative only

Wastewater Treatment Plant Facility Plan

City of North Liberty, Iowa

March, 2006



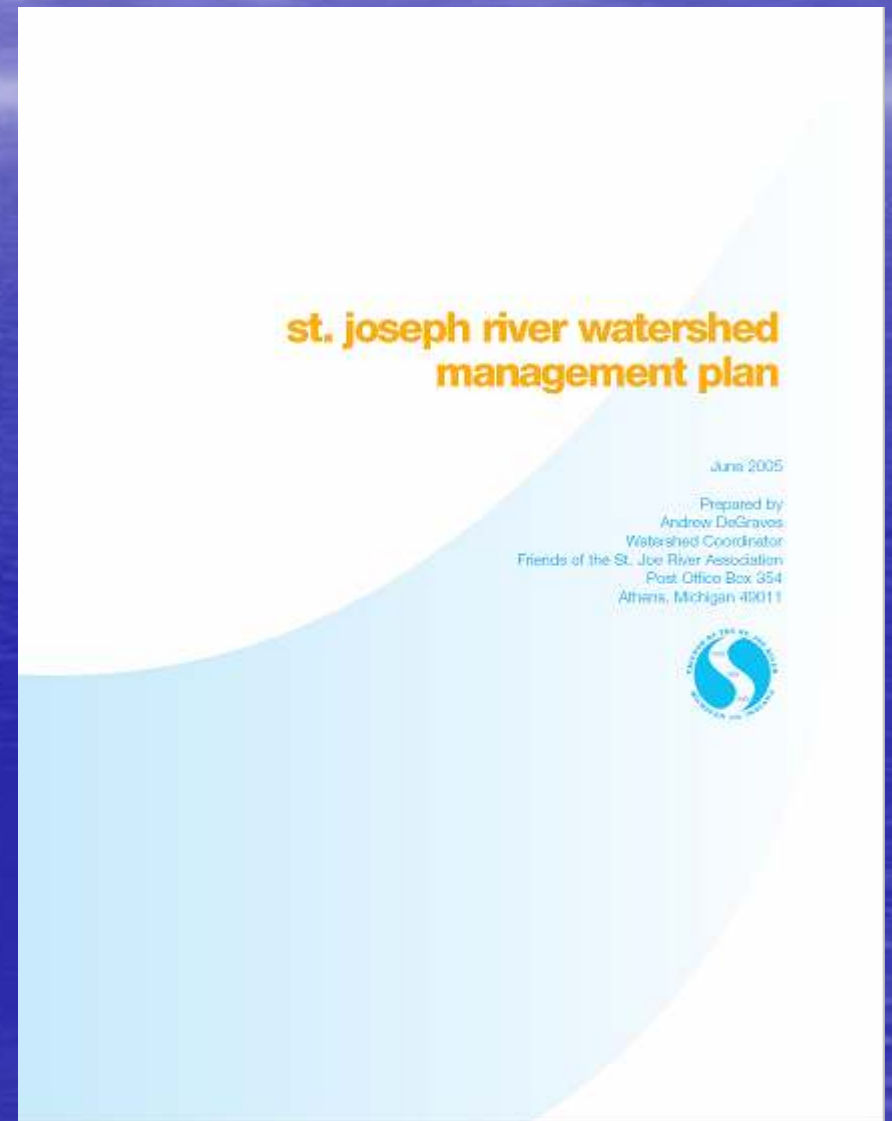
1601 Golden Aspen Drive, Suite 103
Ames, Iowa 50010
Phone: 515-233-0000/800-433-3469 Fax: 515-233-0103
Web: www.foxeng.com E-Mail: info@foxeng.com

Documents with Emphasis on Nonpoint Source (NPS) Needs

| Document | Doc Type |
|---|----------|
| Watershed-Based Plans | 40 |
| Section 319 Funded or EPA Reviewed Watershed-Based Plans | 41 |
| Approved State Annual 319 Workplans | 42 |
| Approved State 319 Project Implementation Plans | 43 |
| NPS Management Program/Assessment Report | 44 |
| NPS Management Program/Ground Water Protection Strategy Report | 45 |
| NPS Management Program/Wellhead Protection Program and Plan | 46 |
| NPS Management Program/Delegated Underground Injection Control Program Plan | 47 |
| Source Water Assessment/Source Water Protection Plans | 48 |
| NRCS Conservation Plans and Farm Plans | 49 |
| Electronic Field Office Technical Guide (eFOTOG) | 50 |
| State/Federal Agricultural Cost-Share Program Cost Tables | 51 |
| Professional Appraisals | 52 |

Watershed-Based Plans (40)

- Need: Yes
- Costs: Yes
- Footnotable: No
- New Document



Need for Small Communities

- Communities with populations of fewer than 10,000 persons.
- Use *only* if other acceptable documentation types are not available.

| Document | Doc Type |
|---|----------|
| Small Community Needs Form | 71 |
| Information from an Assistance Provider | 72 |

Small Community Needs Form (71)

- Need: Yes
- Costs: Yes
- Footnotable: Yes
- Local signatures are required
- Special signature requirements for communities <3,500

Information from an Assistance Provider (72)

- Need: Yes
- Costs: No
- Footnotable: No
- Local official and provider signatures must be included

Document Cutoff Dates

All Needs*:

\geq \$20 Million: January 1, 2002, or more current

$<$ \$20 Million: January 1, 1998, or more current

* Modified to meet terms of Information Collection Request approval

Document Footnoting Criteria

- Documentation classified as footnotable by the CWNS Workgroup
- Facility's total needs < \$20 million

Footnotable documents must be retained in the state's files

Footnotable Documents

| 2008 Doc | 2004 Doc | Document Name |
|---------------------|---------------------|--|
| 01 | 8, 11 | Intended Use Plan |
| 02 | 10, 28 | State and Federal Loan and Grant Applications |
| 03 | 10 | CWSRF Loan Applications |
| 12 | 29, S2 | State Needs Surveys & other State forms |
| 20 | 01 | Capital Improvement Plan (CIP) |
| 21 | 06 | Facility Plan |
| 23 | 04 | Final Engineer's Estimate |
| 24 | 2, 3, 16 | Sewer System Evaluation Documents |
| 33 | n/a | Approved CSO Long-Term Control Plan (LTCP) |
| 41 | n/a | Section 319 Funded or EPA Reviewed Watershed-Based Plans |
| 43 | 41 | Approved State 319 Project Implementation Plans |
| 71 | 30 | Small Community Needs Form |

Requirements for Submitting Documents

(Hard copy or electronic format)

Documents Submitted in Hard Copy

- **Label** the document with the CWNS Number.
- ***Highlight*** the document's title, date, and author.
- ***Highlight and flag*** the page or pages that contain the information substantiating the water quality or public health problem, describes the recommended alternative, or present associated costs.
- Flag requirements for hard copy documents are essentially the same as for electronic documents.
- All relevant section must be sent to EPA.

Documents Submitted Electronically

- Tag: document title, date, author, information substantiating the water quality or public health problem, describes the recommended alternative (if more than one is presented), and/or presents associated costs
- Tags should include a label with initials, the CWNS number and the type of information presented
(e.g., AE 12000000981 Category I cost)

Tag: Example

AE
CWNS Number 99000000000
Title

INTENDED USE PLAN

CLEAN WATER STATE REVOLVING FUND (CWSRF)

FY 2004 FEDERAL APPROPRIATION

AE
CWNS Number 99000000000
Date



AE
CWNS Number 99000000000
Author

Prepared by the

**Tennessee Department of Environment and Conservation
Division of Community Assistance**

Tag: Example

**ATTACHMENT 5
GEFA
CLEAN WATER STATE REVOLVING LOAN FUND
2002 FUNDABLE PRIORITY LIST OF ANTICIPATED LOAN RECIPIENTS
As of 4/30/2003**

**AE
CWNS Number 99000000000
Base Date**

| Population | Community | Loan (\$) | Status Update | Project Description/Type of Assistance |
|---|---------------|-------------------------|--|--|
| 10,667 | Calhoun | \$ 4,000,000.00 | Construction in progress | Renovations to the city's old 4 MGD wastewater treatment plant. |
| 25,578 | Gainesville | \$ 21,245,379.00 | Construction in progress | Expand Flat Creek WPCP from 10 MGD to 12 MGD to meet the needs of population growth while improving the water quality standards by reducing the amount of phosphorous being discharged into Lake Lanier. |
| | Total | \$ 25,245,379.00 | | |
| The following projects are eligible for a 2002 CAP award in the event that repayment funds are not used: | | | | |
| | | | Awaiting submission of planning document. | Expand the Authority's existing wastewater treatment plant from 1.05 MGD to 2.10 MGD. |
| | | | Received Board Approval. Awaiting construction start | Install approximately 10,000 LF of 4" pipe to replace the existing land treatment plant. 85% of the cost is covered by the 1997 Hardship Grant Program for Rural Communities. |
| 5,232 | Commerce | \$ 4,500,000.00 | Received Board Approval. Awaiting construction start | Expand the city's Wastewater Treatment Plant from 1.05 MGD to 2.10 MGD. |
| 6,239 | Pooler | \$ 9,500,000.00 | Construction in progress | Construct a 2.5 Million Gallons per Day (MGD) water reclamation facility to serve the City of Pooler and surrounding areas in Chatham County. |
| 3,379 | Social Circle | \$ 3,300,000.00 | Awaiting submission of planning document. | Upgrade/expand the Social Circle Little River WPCP from 0.65 MGD to 0.9 MGD. |
| | Total | \$ 22,612,000.00 | | |

**AE
CWNS Number 99000000000
Category I and II costs
70% Category I: 14,871,765
30% Category II: 6,373,614**

**AE
CWNS Number 99000000000
Need Justification**

Clean Watersheds Needs Survey (CWNS) 2008



Changes in Eligibility from 2004

"Official" Needs

Need: A project, with associated costs, that addresses a water quality or water-related public health problem existing as of Jan 1, 2008 or expected to occur within the next 20 years.

"Official" Needs are defined as Capital costs for Needs that:

- Meet CWNS documentation criteria, and

- Fall within CWNS categories, with Section 212-related Needs limited to publicly owned facilities

Changes in Eligibility from 2004

CWSRF eligibility is no longer required for a project to be an “Official” need.

CWSRF eligible subset of “Official” needs will be in appendices

“Official” Needs are in the main body of the Report to Congress

Other needs are in appendices, including:

Capital costs for privately owned wastewater collection and treatment plants

Planning and operations & maintenance costs



CWNS 2008

Documentation Criteria

Eligibility Criteria for “Official Needs”

1. Description of the water quality or public health problem
 2. Location of the problem
 3. Solution to the problem
 4. Cost of the solution
 5. Basis for the cost
 6. Total cost
 7. Current Documentation
- Needs
- Costs
-
- The diagram shows a list of seven eligibility criteria. The first two items, 'Description of the water quality or public health problem' and 'Location of the problem', are grouped by a right-facing curly bracket labeled 'Needs'. The next four items, 'Solution to the problem', 'Cost of the solution', 'Basis for the cost', and 'Total cost', are grouped by a right-facing curly bracket labeled 'Costs'. The final item, 'Current Documentation', is not grouped. The numbers 1 through 7 are in yellow, while the text is white with a black outline.

1. Description of the water quality or public health problem

Water quality impairment or potential source of impairment.

Specific pollutant source information.

General statements about water quality impairment do not meet this criterion.

Examples: permit violations, more stringent permit requirements, discharge to impaired waters.

2. Location of the problem

Point Source & Clustered Decentralized projects:

Latitude/longitude

Non-Point Source / Stormwater / OWTS projects:

Latitude/longitude for NPS projects < 200 acres

Polygon (of the project location and/or the beneficial receiving waters)

For Area-wide projects

- County
- Watershed (NPS only)
- Town (OWTS, SW only)

3. Solution to the problem

Specific pollution control measures or BMPs to address the problem.

The number of units needed to address the problem must be clearly documented.

4. Cost of the solution

The capital cost to implement each pollution control measure or BMP.

General estimates for the problem area are not permitted; only site-specific data information is acceptable to generate the costs.

5. Basis for the cost

The source of the costs for each solution.

Examples: engineer's estimate, facility plan, cost of comparable practices, estimates from equipment suppliers, cost curves,...

6. Total cost

The total capital costs for all pollution control measures and BMPs documented for a facility

All costs will be automatically converted to January 1, 2008 dollars

CWSRF Appendix

- States will identify the portion of each need that is CWSRF eligible
 - According to National CWSRF eligibility rules
 - Done during regular CWNS data entry
 - Expressed as a percentage of total need reported

CWSRF Appendix

- Example:
 - Facility Plan for a Category II Advanced Treatment process estimates \$10 million in total costs.
 - \$1 million of the cost is associated with land not integral to the treatment process and is therefore not CWSRF eligible.
 - State would identify 90% of this need as CWSRF eligible
 - The CWNS database will automatically migrate \$9 million to the CWSRF appendix



CWSRF Project Eligibility

CWSRF Project Eligibility

- The CWSRF can provide assistance for
 - Projects that meet the definition in Section 212 of the Clean Water Act
 - Must be publicly owned
 - Implementation of Sec. 319 Nonpoint Source Management Plans
 - Projects can be publicly or privately owned
 - Development and Implementation of Sec. 320 Comprehensive Conservation Management Plans for National Estuaries
 - Projects can be publicly or privately owned

212 Eligibility Principles

- All projects must be consistent with the definition of “treatment works” as set forth in 212
- All section 212 projects must be publicly owned, as required by CWA section 603©(1)
- All section 212 projects must serve a public purpose

CWSRF Project Eligibility - 212

Sec 212 (1) The term "construction" means any one or more of the following: preliminary planning to determine the feasibility of treatment works, engineering, architectural, legal, fiscal, or economic investigations or studies, surveys, designs, plans, working drawings, specifications, procedures, field testing of innovative or alternative waste water treatment processes and techniques meeting guidelines promulgated under section 304(d)(3) of the Act, or other necessary actions, erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works, or the inspection or supervision of any of the following items.

CWSRF Project Eligibility - 212

- Sec. 212(2)(A) The term “treatment works” means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature to implement section 201 of this Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intersecting sewers, outfall sewers, sewage collection systems, pumping power, and other equipment and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, **including site acquisition of the land that will be an integral part of the treatment process** (including land use for the storage of treated wastewater in land treatment systems prior to land application) or is used for ultimate disposal of residues resulting from such treatment.

CWSRF Project Eligibility - 212

- What does all that mean?
 - The CWSRF can pay for the planning, design and building of publicly owned Sec. 212 projects
 - Capital Projects
 - Not Operation and Maintenance costs



CWSRF Project Eligibility – 212

Recent issues

- CWSRF cannot pay for land unless it is integral to the treatment process
 - Not simply land necessary to site the facility
 - Rights of way used for green infrastructure where the land is integral to the treatment process are eligible
- Systems that receive a mix of domestic and industrial flow are eligible
 - Even if the industrial flow is the majority of the flow
 - No pro-rating
 - Policy Memo 93-02



CWSRF Project Eligibility - 319

319 Eligibility Principles

- Capital projects that support a component of an approved Sec 319 plan or the 9 element watershed plans required by the Sec. 319 program
 - Publicly or privately owned projects
 - Surface or Groundwater
 - Prevention or Abatement



319 Eligibility Principles

- Costs are limited to capital costs
 - Capital costs definition augmented to include the initial delivery of education programs
- Projects must have a direct water quality benefit
- Only projects that remediate, mitigate the impacts of, or prevent water pollution should be funded.
- Point source solutions to nonpoint source problems are eligible as CWSRF nonpoint source 319 projects.



CWSRF Project Eligibility - 320

320 Eligibility Principles

- Implement a section 320 CCMP and must be sanctioned in the plan
- Either publicly or privately owned
- Eligible costs are limited to capital costs
- Must have a direct benefit to the water quality of an estuary
- Only the portions of a project that remediate, mitigate the impacts of, or prevent water pollution in the estuary watershed should be funded.

Clean Watersheds Needs Survey (CWNS) 2008



Documenting Small Community Needs

What is a Small Community?

Total Present Resident Population

present resident population receiving
collection and centralized treatment

+

present resident population serviced
by onsite wastewater treatment systems

+

present resident population not
receiving wastewater treatment

Fewer than 10,000 persons

What is NOT a Small Community?

- One of several facilities serving a community $> 10,000$
- A component of, and virtually indistinguishable from, surrounding or adjacent entities
- Wastewater system is physically connected to a regional treatment authority serving $> 10,000$

Documentation Methods

1. Standard Documentation

- Preferred Method

2. Simplified Methodology

- EPA-approved Small Community Survey
- State Form

Standard Needs and Costs Documentation

- Small communities are encouraged, but not required, to provide states with documentation to support their needs or costs
- Possible documents include:
 - Signed health department statement
 - Application for funding
 - Capital Improvement Report
 - Engineering studies or Plans of Study
 - General Plan or Facilities Plan

Simplified Methodology for Small Communities

- Water Quality or Public Health Needs are documented by:
 - Written explanation of need
 - Certified by the signature of a local official representing the community
 - A local official can be an elected official (e.g., mayor) or other qualified official (e.g., public works manager)

Simplified Methodology for Small Communities

- Costs are documented by written explanation of costs
- And certification by one of the following:
 - A professional engineer (PE) signs a cost certification
 - A local government official signs a cost certification
AND a State Professional Engineer (PE) certifies the cost as reasonable after reviewing the estimate
- If no cost certification signature is provided, cost curves generate estimated costs (if possible)

Special Circumstances for Very Small Communities

- For communities with populations of 3,500 or less and under extraordinary circumstances:
 - A state registered engineer or circuit rider may sign the cost or need justification with pre-approval from EPA
 - States should send written statements to EPA HQ with the each community's details and why local signatures are not available
 - States should wait until EPA HQ approves the request before entering needs or cost information into the database

Clean Watersheds Needs Survey (CWNS) 2008



Roles & Responsibilities

State Roles

| Access Level | Definition | Responsibility |
|----------------------------|--|---|
| State CWNS User Management | A state employee approved by the CWNS System Manager to manage State users and facility administrator accounts. | Provisions, manages, and deprovisions <ul style="list-style-type: none">•State users within his/her state.•Local User Manager accounts for facilities/projects located in his/her state. |
| State Reference Admin | Allows the state user add and update static data (e.g., pollution problem) via the Administration portlet. It does not allow the user to manage user accounts and update and submit facility/project data. | |

State Roles (continued)

| Access Level | Definition | Responsibility |
|---------------------------|--|----------------|
| Submit for Federal Review | Allows state users to submit the data to EPA for review. It does not allow the user to update facility/project data. | |
| Facility Update | Allows state users to directly update facility/project data in the DEP. It does not allow the user to submit the data to EPA for review. | |
| View | Allows the state users to view facility/project data. The user cannot update the data. All state users are granted this access level. | |

Local Roles

| Access Level | Definition | Responsibility |
|----------------------------|--|---|
| CWNS Local User Management | A Local or Secondary User from the same state as the user manager and identified by the state user manager to manage user accounts associated with the assigned facilities/projects. | Provisions, manages, and de-provisions facility users associated with assigned facilities/projects. |
| Submit for State Review | Allows local user to submit the feedback data to the state for review. It does not allow the user to provide feedback or directly update the Utility Management and Unit Process data. | |
| Facility Update - Feedback | Allows local user to provide feedback for all data areas except Utility Management and Unit Process for assigned facilities/projects in the DEP. It does not allow the user to submit the feedback to the state for review or update the Utility Management and Unit Process data areas. | |

Local Roles (continued)

| Access Level | Definition | Responsibility |
|------------------------------|---|----------------|
| Facility Update – Partial | <p>Allows local users to directly update the facility/project's data in the Utility Management (when applicable) and Unit Process tabs in the DEP.</p> <p>Saved changes made the Utility Management and Unit Process are available to the state immediately. It does not allow the user to provide feedback to other data areas or submit the feedback to the state for review.</p> | |
| View | <p>Allows the state users to view facility/project data, except Needs data. The user cannot provide feedback on the data or change the Utility Management and Unit Process data.</p> <p>All Local Users are granted this access level.</p> | |

Clean Watersheds Needs Survey (CWNS) 2008



Documenting Stormwater Program Management Needs

Stormwater

- Generated by runoff from land and impervious surfaces such as paved streets, parking lots, and building rooftops during precipitation events
- Often contain pollutants in quantities that could adversely affect receiving water quality.

Stormwater (cont.)

- Most stormwater discharges are considered point sources and require coverage by an NPDES permit.
- The most commonly used method to control stormwater is through best management practices, including pollution prevention and source reduction (quantity and quality control).

What is an MS4?

A municipal separate storm sewer system (MS4) is:

- A conveyance or system of conveyances... owned by a state, city, town, or other public entity that discharges to waters of the U.S. and is:
 - designed or used for collecting or conveying stormwater
 - not a combined sewer
 - not part of a Publicly Owned Treatment Works (POTW)

Cost Categories of Stormwater Needs for CWNS

- VI-A: Stormwater Conveyance Infrastructure
 - Pipes, inlets, road side ditches
- VI-B: Stormwater Treatment Systems
 - Wet ponds, dry ponds, manufactured devices
- VI-C: Green Infrastructure/Low Impact Dvlpmnt.
 - Bioretention, constructed wetlands, permeable pavement, rain gardens, green roofs, rain barrels, vegetated swales, restoring riparian buffers, etc.
- VI-D: General Stormwater Management
 - Education program start-up costs, GIS systems, tracking systems, education, equipment (street sweepers), management plan development

Clean Watersheds Needs Survey (CWNS) 2008



Documenting Nonpoint Source Needs

NPS

- Does not have a single point of origin
- May be the result of runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrological modification
- Sources are diffuse



2008 NPS Pollution Sub-categories

- VII-A: Agriculture (Cropland)
- VII-B: Agriculture (Animals)
- VII-C: Silviculture
- VII-E: Ground Water Protection (Unknown Source)
- VII-F: Marinas
- VII-G: Resource Extraction
- VII-H: Brownfields
- VII-I: Storage Tanks
- VII-J: Sanitary Landfills
- VII-K: Hydromodification
- VII-M: Estuary Management Activities

Technical Data

Required

- Project Information
- Point of Contact
- Coordinates
- Areas Related to Needs
- Needs

Optional

- Permits
- Funding
- O & M
- Pollution
- Unit Process

Clean Watersheds Needs Survey (CWNS) 2008



Documenting Decentralized Wastewater
Treatment Needs

Decentralized Wastewater Treatment

- Managed onsite or clustered wastewater systems used to collect, treat, and disperse or reclaim wastewater from individual dwellings, businesses, or small communities or service areas.
- Commonly called
 - Septic systems
 - Private sewage systems
 - Individual sewage treatment systems
 - Onsite sewage disposal systems
 - “Package” plants
 - Community systems

Technical Data

Required

- Facility Information
- Point of Contact
- Coordinates
- Areas Related to Needs
- Needs

Optional

- Permits
- Address
- Funding
- O & M
- Discharge
- Pollution
- Unit Process
- Utility Management

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Contact Information

- David P. Breau, P.E.

Division of Water Quality Management

17 State House Station

Augusta, ME 04333-0017

Tel: 207-287-7766

e-mail: david.p.breau@maine.gov

Any questions?

